REMARKS

In the Office Action, claims 1-14 were rejected. By the present response, claim 5, 7 and 10 are amended. Upon entry of the amendments, claims 1-14 will be pending in the present application. Reconsideration and allowance of all pending claims are requested.

Rejection Under 35 U.S.C. § 112

The Examiner rejected claim 10 under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter. By the present response, claim 10 is amended to overcome the rejection.

Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 1-6, 9 and 11-14 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,570,876 (hereinafter "Aimoto").

Claim 1 and the claims depending therefrom

Claim 1 recites, *inter alia*, a communications network that includes at least one source unit configured to generate messages for relay, and a smart node. The node is capable of storing programming instructions, receiving messages for relay from the source unit, determining at least a merit value for the messages, dynamically reprioritizing the received messages based on the merit value and transmitting the reprioritized received messages. The communications network also includes at least one portal node adapted to receive the said reprioritized received messages transmitted from the smart node.

The Examiner based the rejection on a comparison of the communications network in the present application with the packet switching network disclosed by Aimoto. Applicants have carefully reviewed the subject matter disclosed in Aimoto and respectfully submit that Aimoto does not teach the communications network recited in claim 1 for at least the reasons summarized below.

Applicants respectfully submit that the merit value recited in claim 1 is different from the priority value disclosed by Aimoto. In the present application, the communications network is configured to receive messages for relay from the source unit. The communications network then determines a merit value for each of the received messages and dynamically reprioritizes the received messages based on the determined merit values. The merit value, in the present application, is defined as being inversely proportional to the position dilution of precision (PDOP). PDOP is further defined as the calculus of choice for comparing the relative merits of individual position estimates of individual target location estimates.

Applicants wish to highlight that the present application relates to active network management. As will be appreciated by a person of ordinary skill in the art, in specific scenarios, target locations are not always stationary. Because the target locations change with time, it is of significance that decisions for locating any such target have to be made taking into account the location of the movable target.

Applicants respectfully submit that in the present application, the communications network determines a merit value dynamically, i.e., taking into account the changing coordinates of a moving target. It must be noted that the smart node continuously sends information about the target location and that the communications network continuously determines the merit value for each message received from the smart node.

Sections (page 4, line 25 through page 5, line 16) in the present application that relate specifically to the subject matter recited in claim 1 include the fullowing:

> In this example, the target locations are estimated and a directed energy (DE) weapon is issued against them. The probability that the DE weapon will be effective on any particular firing is a strong function of the merit of the individual target location estimate. The greater the volume of uncertainty within which the target is to be found, the

greater the number of weapon commitments, or, equivalently, DE firings, is necessary to neutralize that target. The number of targets in a real situation may be quite large and the number of objects in the target field very large due to shroud components, tank fragmentation and so on as taught by E. W. Reed, E. C. Henry, and A. Crosby in their article "THAAD System Loading Capacity Evaluation in Anticipated Tactical Field Environments" published in the Proceedings of Radar 97, 1997, pp. 352-355, and by D. E. Mosher in his article "The Grand Plans" published in IEEE Spectrum, September 1997, pp. 28-39.

The calculus of choice for comparing the relative merits of individual target location estimates is the Position Dilution of Precision, or PDOP. The PDOP for an individual target is computed by taking the square root of the trace of the matrix $(H^T H)^{-1}$ where H is a matrix of the direction cosines of an individual target measured from the sensors and T signifies transpose. For the instant example,

$$H = \begin{pmatrix} a_{x,1} & a_{y,1} & a_{z,1} \\ a_{x,2} & a_{y,2} & a_{z,2} \\ \vdots & \vdots & \vdots \\ a_{x,S} & a_{y,S} & a_{z,S} \end{pmatrix}$$

where $(a_{x,i}, a_{y,i}, a_{z,i})$ are the direction cosines of the target measured from sensor . The smaller the value of the PDOP for a particular set of sensors and particular target, the higher the merit of the particular target location estimate. Merit may thus be defined as 1/PDOP. At a minimum, three sensors are required to triangulate a target based on its measured direction cosines.

Aimoto, on the other hand, discloses a packet switch that receives the variable length packets. The packet switch is further configured to control transmission of the packets according to priority already contained in the packets. Aimoto specifically discloses that the packets already contain priority information before the packet switch receives them. See, col. 8, lines 25-38. Further, Aimoto discloses that it is only the packet priority information contained in the incoming packets that determines the

processing priority of the packets. The referenced section (col. 8, lines 25-38) from Aimoto is reproduced below for reference.

> A packet **30** comprises a header portion **31** and a data portion **32**. The header portion **31** includes packet priority information **33**, a service request **34**, protocol information **35**, a source address **36**, and a destination address **37**. The packet priority information **33** indicates the processing priority of the packet. The service request **34** indicates the information of a service requested by the packet, for example, a request for reliability and high speed performance. These items are equivalent to the priority (0 to 2nd bits), the low delay request (3rd bit), the high through-put request (4th bit), and the high reliability information (5th bit) of the TOS (Type Of Service) field defined in the header of each IP packet used for the Internet.

Applicants respectfully submit that the packet switch disclosed by Aimoto is inherently different from the communications network recited by claim 1 for at least the reason that the claimed communications network determines the merit value after receipt of the messages from the smart node, and the priority of the messages are determined by the communications network based on the determined merit value.

Therefore, in view of the discussions hereinabove, Applicants submit that Aimoto does not support a *prima facie* case of anticipation under 35 U.S.C. §102(e), and respectfully request that the rejection of claim 1 and the claims depending therefrom be withdrawn.

Claim 4 and the claims depending therefrom

Applicants respectfully submit that in view of the arguments set forth above with regards to independent claim 1, Aimoto fails to support a *prima facie* case of anticipation of the technique of claim 4 under 35 U.S.C. §102(e). Therefore, Applicants respectfully

submit that independent claim 4 and the claims depending therefrom are allowable and request the Examiner to reconsider the rejection of these claims.

Claim 9 and the claims depending therefrom

Applicants respectfully submit that in view of the arguments set forth above with regards to independent claim 1, Aimoto fails to support a *prima facie* case of anticipation of the technique of claim 9 under 35 U.S.C. §102(e). Therefore, Applicants respectfully submit that independent claim 9 and the claims depending therefrom are allowable and request the Examiner to reconsider the rejection of these claims.

Rejections Under 35 U.S.C. §103

The Examiner rejected claims 7, 8 and 10 as being unpatentable under 35 U.S.C. §103(a) over Aimoto in view of U.S. Patent No. 6,324,570 (hereinafter "Tonchev").

Moreover, claims 7, 8 and 10 dependent directly or indirectly from an allowable base claim. Therefore, Applicants respectfully submit that claims 7, 8 and 10 are allowable in view of such dependency as well as for the subject matter they separately recite. Applicants respectfully request the Examiner to reconsider the rejection of the claims under 35 U.S.C. §103(a).

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: 3/4/2005

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